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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFERSON E. ODHNER,
ELLIOTT S. LUCKOFF,
DONALD L. CULLEN, and
KEN G. WASSON

Appeal 2009-0194
Application 09/836,685
Technology Center 2800

Decided:[1] April 13, 2009

Before BRADLEY R. GARRIS, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1, 3, 17, and 32. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM for the reasons expressed in the Answer and below.

STATEMENT OF THE CASE

Appellants claim a method and system for treating optical signals wherein a rotatable diffractive optical element (RDOE) 12 having a holographic diffraction grating is positioned (i.e., rotated) to intercept input optical signals from a source 10 for generating output optical signals 20, 22 and distributing any output optical signals to any output optical stations 14, 16, 18 (claim 17; Figs. 1-2).

Representative independent claim 17 reads as follows:

17. A system for treating optical signals from a source thereof, which comprises:

a source, a rotatable diffractive optical element (RDOE), and output station(s), wherein

(a) said source carries input optical signal(s), each of said signal(s) being associated with a particular wavelength;

(b) said rotatable diffractive optical element (RDOE) has a surface carrying a holographic diffraction grating including an array of superimposed facets, each of said facets carrying a diffraction grating(s) which are superimposed, each diffraction grating being angularly offset with respect to each other, said RDOE being positioned to intercept said input optical signal(s) for generating output optical signal(s) and distributing any said output optical signal(s), to any said output optical station(s) and;

(c) said output station(s) being positioned to receive said output optical signal(s) from said RDOE.

The references set forth below are relied upon by the Examiner as evidence of obviousness:

Mey	US 5,608,278	Mar. 4, 1997
Doggett	US 4,528,448	Jul. 9, 1985
Asakura	US 5,450,512	Sep. 12, 1995

The Examiner rejects independent claims 1, 17, and 32 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Doggett and correspondingly rejects dependent claim 3 over these references and further in view of Mey.

ISSUES

Have Appellants shown error in the Examiner's legal determination that the claim 17 function "distributing any said output optical signal(s), to any said output optical station(s)" encompasses (and therefore is satisfied by) the distributing capability of Asakura's system?

Have Appellants shown error in the Examiner's conclusion that it would have been obvious "to have the rotatable diffractive optical element of the system and method of Asakura further be holographic and include an array of superimposed facets, each of the facets carrying a diffraction grating(s) which are superimposed, each diffraction grating being angularly offset with respect to each other, as taught by Doggett, for the purpose of increasing the duty cycle and multiplexing and demultiplexing capability of the system, since a large number of input signals may be input and multiplexed/demultiplexed by the diffraction gratings, while preventing degradation of the diffracted output signals" (Ans. 4)?

FINDINGS OF FACT

The Examiner makes the findings set forth below regarding Asakura:

> Asakura discloses a system and method for treating optical signals from a source (See for example Figures 7-8), comprising a source (inherently, a source of light is required to generate the signals having wavelengths of λ_1, λ_2, λ_3, λ_4), a rotatable diffractive optical element (See 92 in Figure 8, col. 4, line 57-col. 5, line 2), and output stations (See 98, 99 in Figure 8), wherein the source carries input optical signals (See 90 in Figure 8), each of said signals being associated with a particular wavelength, the rotatable diffractive optical element (See 92 in Figure 8; col. 4, line 57-col. 5, line 2) has a surface (i.e., a signal facet) carrying a diffraction grating and positioned to intercept said input optical signals for generating output optical signals and distributing any optical signals to any output station (See col. 1, line[s] 30-54; col. 2, line 40-col. 3, line 18); and the output stations positioned to receive said output optical signals from the rotatable diffractive optical element (See 98, 99 in Figure 8).

(Ans. 3).

Appellants make a similar finding regarding Asakura:

> Asakura discloses an improved optical tap for use in wavelength division multiplexing applications where multi-channel signals are transmitted over a single fiber. An optical tap acts somewhat as a filter to select, or pick off, a particular signal with all other signals being passed. An input fiber is provided which carries a signal composed of a plurality wavelengths. That signal is dispersed by a diffraction

> grating, each wavelength being dispersed at a different angle. The desired wavelength then is directed to a first output fiber. All remaining wavelengths are directed to a second output fiber.

(Br. 11).

Appellants contend that "Asakura does not teach rotating a diffractive element to distribute any output optical signal to any output station as required by the claims" (Br. 13). However, this contention is based on disagreement between Appellants and the Examiner as to whether the function "distributing any said output optical signal(s), to any said output optical station(s)" of system claim 17 encompasses (and therefore is satisfied by) the distributing capability of Asakura's system.

The Examiner acknowledges that "Asakura lacks the rotatable diffractive optical element being holographic . . . " (Ans., sentence bridging 3-4) as required by the appealed claims but finds that Doggett evinces that such holographic diffractive elements and their attendant advantages are known in this art (Ans. 4).

Appellants do not dispute the Examiner's finding regarding Doggett and indeed admit that "[s]uch holographic elements are well-known in the art" (Br. 14, first full para.).

PRINCIPLES OF LAW

During examination, a claim should be given its broadest reasonable interpretation consistent with the specification and should be read in light of the specification as it would be interpreted by a person of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Limitations are not to be read into the claims from the specification. *In re Van Geuns*, 988 F.2d 1181, 1184-85 (Fed. Cir. 1993).

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739 (2007). The question to be asked is whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 1740.

ANALYSIS

Appellants do not separately argue any of the rejected claims including separately rejected claim 3 (Br. 14-16). Accordingly, we select independent system claim 17 as representative of the claims rejected over Asakura and Doggett, *see* 37 C.F.R. § 41.37(c)(1)(vii)(2007), with the rejection of claim 3, additionally relying upon Mey as evidence of obviousness, standing or falling on the basis of our decision as to claim 17.

As previously indicated, Appellants contend that "Asakura does not teach rotating a diffractive element to distribute any output optical signal to any output station as required by the claims" (Br. 13). This quoted position regarding Asakura forms the basis for Appellants' ultimate position that "creating output optical signals from the input signals and distributing any output optical signal to any output station is not taught or suggested by the combination [of Asakura and Doggett]" (Br. 16, first full sentence). For the reasons stated in the Answer and below, Appellants' contention does not persuade us of error in the Examiner's determination that the claim 17 function "distributing any said output optical signal(s), to any said output optical station(s)" encompasses the distributing capability of Asakura's system.

In this latter regard, we emphasize the agreement between Appellants and the Examiner that Asakura discloses distributing a desired wavelength to a first output fiber (i.e., station) with all remaining wavelengths being distributed to a second output fiber (i.e., station). This disclosure is exemplified by the embodiment shown in Figure 8 (as well as in Figs. 6-7) of Asakura wherein appropriate rotation of diffraction grating 92 distributes a desired wavelength such as λ_2 to output fiber 98 with the remaining wavelengths such as λ_1, λ_3, and λ_4 being distributed to output fiber 99 (col. 4, l. 10-col. 5, l. 2, especially the sentence bridging cols. 4-5). The so-disclosed distributing capability of Asakura's Figure 8 embodiment is encompassed by (and therefore satisfies) the system claim 17 function under consideration.

This is most clearly revealed by the circumstance wherein Asakura's Figure 8 system processes input optical signals consisting of only two wavelengths λ_1 and λ_2 (i.e., rather than the four wavelengths λ_{1-4} illustrated in Figure 8). In this circumstance, appropriate rotation of diffraction grating 92 renders the Figure 8 system capable of distributing either wavelength λ_1 or wavelength λ_2 to output fiber 98 with the remaining wavelength being distributed to output fiber 99. The system claim 17 function "distributing any output optical signal(s), to any said output optical station(s)" appears to indisputably encompass this two-wavelengths distributing capability of Asakura's Figure 8 system.

We acknowledge Appellants' statement that, "[u]nlike Asakura, the present invention is concerned with more than just picking off a single signal [and addresses] more complex systems than that presented in Asakura" (Br. 12). However, this statement and the contention discussed above indicate

that Appellants are inappropriately reading limitations into the appealed claims from their specification. As revealed by the previously mentioned two-wavelengths example applied to Asakura's Figure 8 system, appealed claim 17 encompasses the distributing capability of this prior art system and therefore is not limited to "more complex systems than that presented in Asakura" (Br. 12).

For these reasons and the reasons expressed in the Answer, we are convinced that the Examiner has properly given to claim 17 its broadest reasonable interpretation consistent with the Specification as it would be interpreted by a person of ordinary skill in this art.

Appellants also argue that "there is simply no suggestion or motivation to combine . . . [the Asakura and Doggett] references" (Br. 14). This argument does not show error in the Examiner's obviousness conclusion for the reasons discussed below and given in the Answer.

In an attempt to reinforce this argument, Appellants state that the Examiner's proposed combination of Asakura and Doggett would yield "[n]o change in function or result" (Br. 15). In our view, Appellants' statement militates against their argument and militates for the Examiner's obviousness conclusion. This is because the statement reveals that the Examiner's proposed combination of the familiar prior art elements taught by Asakura and Doggett does no more than yield predictable results. In this regard, we remind Appellants of the established legal principle that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

Under these circumstances, Appellants have failed to reveal error in the Examiner's obviousness conclusion.

CONCLUSIONS OF LAW

Appellants have not shown error in the Examiner's legal determination that the claim 17 function "distributing any said output optical signal(s), to any said output optical station(s)" encompasses (and therefore is satisfied by) the distributing capability of Asakura's system.

Appellants have not shown error in the Examiner's conclusion that it would have been obvious "to have the rotatable diffractive optical element of the system and method of Asakura further be holographic and include an array of superimposed facets, each of the facets carrying a diffraction grating(s) which are superimposed, each diffraction grating being angularly offset with respect to each other, as taught by Doggett, for the purpose of increasing the duty cycle and multiplexing and demultiplexing capability of the system, since a large number of input signals may be input and multiplexed/demultiplexed by the diffraction gratings, while preventing degradation of the diffracted output signals" (Ans. 4).

As a consequence, we sustain the Examiner's § 103 rejections of independent claims 1, 17, and 32 over Asakura in view of Doggett and of dependent claim 3 over Asakura, Doggett, and Mey.

ORDER

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v)(2008).

AFFIRMED

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